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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,000	12/05/2001	Kai Chen	011593	2841

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WASHINGTON, DC 20006

EXAMINER

BARTH, VINCENT P

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/002,000

Applicant(s)

CHEN ET AL.

Examiner

Vincent P. Barth

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huynh, U.S. Pat. No. 5,822,213 (13 Oct. 1998).
3. Referring to Claims 1-4 and 9, Huynh discloses a system for determining the center of rotation (i.e. "determining the center axis line", as in the instant claims) on rotationally symmetrical objects such as a wafer, in which a fiducial mark in the form of a flat spot or a notch (col. 5, ln. 13, not shown, although alternative flat spot 62 is shown in Fig. 2) is disposed at the circumference of the wafer W (Fig. 2). The notch can also take the form of a V shaped notch (col. 6, ln. 7, actual notch not shown). Huynh discloses that a light 102 may be disposed on one side of the wafer, while a sensor 104 may be disposed on the opposite side of the wafer so as to allow the light to pass through the notch (see Fig. 3). Huynh discloses a motor 109 and support structure 108, although it does not display all of the ancillary features in the instant claims, such as, clamps, lifters, and the like. However, the nature of the disclosure is such that these elements are implicit and/or inherent in the reference, because the disk could not be rotated and inspected

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for defect in the absence of such elements, and those of skill in the art would understand that such elements would be needed to practice the invention. See MPEP §2144.01.

4. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huynh, U.S. Pat. No. 5,822,213 (13 Oct. 1998), in view of Bacchi, et al., U.S. Pat. No. 6,438,460 (20 Aug. 2002).

5. Referring to Claims 5 and 10, said claims incorporate all of the limitations of the claims involving central axis determination, but combine the additional limitation that thickness measurement is incorporated into the system. As discussed above, Huynh discloses the relevant axis determining features, but does not explicitly include thickness measuring features. Bacchi discloses that systems for thickness determining in which a pre-aligning process/apparatus are known (col. 1, ln. 42), notwithstanding that Bacchi apparently provides an improvement over such systems in its preferred embodiments. Nevertheless, Bacchi discloses that such combination was known at the time of its filing. In addition to the suggested combination expressed in Bacchi, the references Huynh and Bacchi are analogous art, since they are from a similar problem solving area, in that each involves processing wafers in which the orientation of the wafer prior to further processing is necessary. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). The motivation for combining the references would have been to incorporate the pre-aligning system of Huynh discloses into the thickness measured in Bacchi, a combination which is suggested in the Bacchi reference itself. Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit.

6. Claims 6-8, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huynh, U.S. Pat. No. 5,822,213 (13 Oct. 1998), in view of Bacchi, et al., U.S. Pat. No. 6,438,460 (20 Aug. 2002), further in view of Le, U.S. Pat. No. 6,549,006 (15 Apr. 2003).

7. Referring to Claims 6, 7, 11 and 12, said claims incorporate all of the limitations of the claims in which both a central axis determination is made and in which thickness is determined, albeit generically, without specifying the precise means. The combination discussed above of Huynh and Bacchi does not explicitly disclose that the thickness determination may be by an eddy current means. However, Le discloses that thickness of an electrically conductive material deposited upon a semiconductor wafer may be measured using both a sensing coil 1, and a reference coil 2 (Fig. 1). Huynh, Bacchi and Le are analogous art, since they are from a similar problem solving area, in that each involves processing wafers. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). The motivation for combining the references would have been to incorporate the pre-aligning system of Huynh discloses into the thickness measured in Bacchi, a combination which is suggested in the Bacchi reference itself, and combining an alternative means of thickness measuring, in the form of eddy currents, to that disclosed in Bacchi. Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit.

8. Referring to Claim 8, both the Huynh reference and the Bacchi reference disclose that the systems are used in the context of deposition of materials upon the semiconductor substrate (Huynh at col. 1, ln. 19; Bacchi at col. 1, ln. 30).

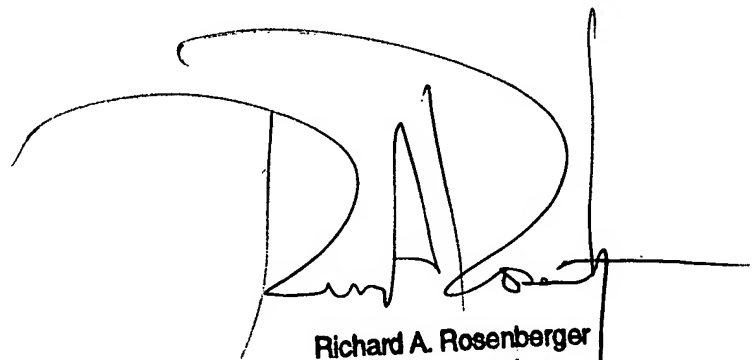
*Comments*

9. Applicants have not submitted an IDS listing relevant references. The instant Application claims priority based on an application filed in the Japanese Patent Office during the year 2000. If any references and search reports provided by the Japanese Patent Office during the examination process therein have been made available to Applicants or Applicants' Counsel, Applicants are reminded that these may be considered relevant to the Examiner in the U.S. Patent Office, and must be submitted. See MPEP §2001.06(a), citing Genveto Jewelry Co. v. Lambert Bros., Inc., 542 F.Supp. 933, 216 USPQ 976 (S.D.N.Y., 1982), and citing 37 CFR §1.56. Accordingly, any such references or search reports must be submitted to the Examiner at the U.S. Patent Office before prosecution closes, or preferably concurrently with Applicants' reply to the instant Office Action. Any search reports from the Japanese Patent Office would be particularly relevant, since the relevant portions of the references would likely be identified. The same principles stated above would apply to any references made known to Applicants by other patent offices. Moreover, if any other references are known by Applicants to be relevant, whether patent references or non-patent literature, these references should be submitted as well. In the event that any references are in a language other than English, a translation is not required.

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***CONCLUSION***

10. Applicants' Claims 1-12 are rejected based on the reasons set forth above.
11. Any inquiries concerning this communication from the Examiner should be directed to Vincent P. Barth, whose telephone number is 703-605-0750, and who may be ordinarily reached from 9:00 a.m. to 5:30 p.m., Monday through Friday. The fax number for the group before final actions is 703-872-9318.
12. If attempts to reach the Examiner prove unsuccessful, the Examiner's supervisor is Frank G. Font, who may be reached at 703-308-4881.
13. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Richard A. Rosenberger  
Primary Examiner